

CLAIMS

What is claimed is:

- 5 1. An apparatus comprising an automated polarized light microscope combined with spectroscopic means.
2. The apparatus according to claim 1 wherein the spectroscopic means are utilized in accordance with at least one Raman spectroscopic technique.
- 10 3. The apparatus according to claim 2 wherein the at least one Raman spectroscopic technique comprises using a microscope.
4. The apparatus according to claim 1 wherein the spectroscopic means are utilized in accordance with at least one mid-infrared spectroscopic technique.
- 15 5. The apparatus according to claim 4 wherein the at least one mid-infrared spectroscopic technique comprises using a microscope.
6. The apparatus according to claim 4 wherein the at least one mid-infrared spectroscopic technique utilizes interferometric data acquisition.
- 20 7. The apparatus according to claim 1 wherein the spectroscopic means are utilized in accordance with at least one near-infrared spectroscopic technique.
- 25 8. The apparatus according to claim 7 wherein the at least one near-infrared spectroscopic technique comprises using a microscope.
9. The apparatus according to claim 1 wherein the spectroscopic means are utilized in accordance with at least one ultraviolet spectroscopic technique.
- 30 10. The apparatus according to claim 9 wherein the at least one ultraviolet spectroscopic technique comprises using a microscope.
11. The apparatus according to claim 1 wherein the spectroscopic means are utilized in accordance with at least one visible spectroscopic technique.
- 35 12. The apparatus according to claim 11 wherein the at least one visible spectroscopic technique comprises using a microscope.
13. The apparatus according to claim 1 wherein the spectroscopic means are utilized in accordance with at least one luminescence spectroscopic technique.
- 40 14. The apparatus according to claim 13 wherein the at least one luminescence spectroscopic technique comprises uses a microscope.
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15. An apparatus comprising an automated polarized light microscope combined with spectroscopic means having means for spectral imaging.

5 16. The apparatus according to claim 15 wherein the spectroscopic means are utilized in accordance with at least one Raman spectroscopic technique.

17. The apparatus according to claim 16 wherein the at least one Raman spectroscopic technique comprises using a microscope.

10 18. The apparatus according to claim 15 wherein the spectroscopic means are utilized in accordance with at least one mid-infrared spectroscopic technique.

19. The apparatus according to claim 18 wherein the at least one mid-infrared spectroscopic technique comprises using a microscope.

15 20. The apparatus according to claim 15 wherein the spectroscopic means are utilized in accordance with at least one near-infrared spectroscopic technique.

20 21. The apparatus according to claim 20 wherein the at least one near-infrared technique comprises using a microscope.

22. The apparatus according to claim 15 wherein the spectroscopic means are utilized in accordance with at least one ultraviolet spectroscopic technique.

25 23. The apparatus according to claim 22 wherein the at least one ultraviolet spectroscopic technique comprises using a microscope.

24. The apparatus according to claim 15 wherein the spectroscopic means are utilized in accordance with at least one visible spectroscopic technique.

30 25. The apparatus according to claim 24 wherein the at least one visible spectroscopic technique comprises using a microscope.

35 26. The apparatus according to claim 15 wherein the spectroscopic means are utilized in accordance with at least one luminescence spectroscopic technique.

27. The apparatus according to claim 26 wherein the at least one luminescence spectroscopic technique comprises using a microscope.

40 28. The apparatus according to claim 1 wherein the spectroscopic means are utilized in accordance with a Raman spectroscopic technique, wherein the Raman spectroscopic technique comprises using a microscope, and further wherein the Raman spectroscopic technique has means for spectral imaging.

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